

THE REVOLUTIONARY NEW
BROAD-BAND
MULTIPHASE 100V



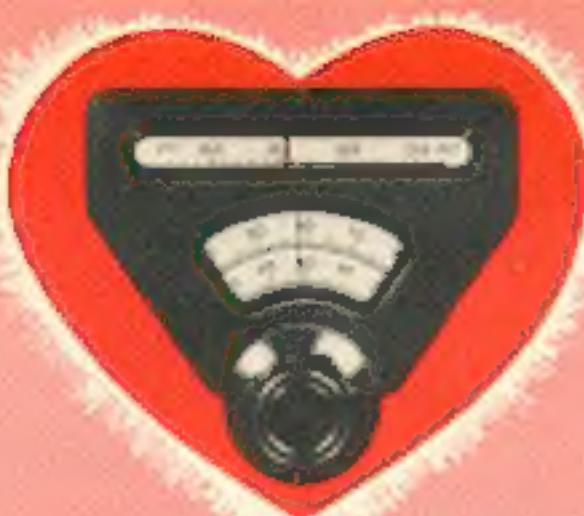
WITHOUT A DOUBT, THE FINEST, MOST VERSATILE
EXCITER-TRANSMITTER IN THE AMATEUR FIELD

CENTRAL ELECTRONICS - THE PIONEER OF AMATEUR SSB AND BROADBAND LINEAR AMPLIFIERS PROUDLY PRESENTS THE 100V - THE ULTIMATE IN OPERATING EASE AND CONVENIENCE - WITH ANY DESIRED MODE OF OPERATION - SSB, DSB, AM, PM, CW OR FSK!

CHANGING BANDS OR EMISSION REQUIRES NO MORE EFFORT THAN BANDSWITCHING YOUR RECEIVER. THERE IS NO SUCH THING AS "TUNING UP" A 100V - ALL TUNING (EXCEPT THE VFO, OF COURSE) IS COMPLETELY ELIMINATED! CENTRAL ELECTRONICS' PATENTED BROADBAND CIRCUITRY IS USED THROUGHOUT.

ONLY ONE TUNING CONTROL - THE VFO!

No other tuning or loading required



THE HEART OF THE 100V

The 100V uses a new patented two-tube permeability tuned oscillator circuit that inherently compensates for the effects of tube aging and line voltage fluctuations. The circuit is turned by a precision machined stainless steel lead screw mounted in precision ball bearings. The heavy duty construction provides extreme frequency stability. Drift is less than 25 cycles in any ten minute interval after a five minute warm up.

Major scale Slides in the slide rule window change with the band switch and are calibrated smoothly every 100 KC. ALL BAND SCALES READ IN THE SAME DIRECTION. THERE ARE NO REVERSE READING SCALES ON THE 100V! Frequency is read directly in 1 KC increments by the circular KC dial without interpolation. The five band spread is approximately 12 feet on each band. A husky two-speed knob provides fast tuning of 100 KC per turn and slow tuning of 120 CYCLES PER TURN. Calibration accuracy is \pm 25 CYCLES BETWEEN ANY 50 KC POINTS OF AN ENTIRE BAND. Re-calibration, should it ever be necessary, is easily performed right at your operating position.

COMPLETE BAND COVERAGE

80 Meters — 3.5 to 4.5 MC.
40 Meters — 6.3 to 7.5 MC.
20 Meters — 13.5 to 14.5 MC.
15 Meters — 20.5 to 21.5 MC.
10 Meters — 27.2 to 29.2 MC.

YOU DON'T SETTLE FOR "PARTIAL" FREQUENCY COVERAGE WHEN YOU BUY A 100V!

PLUS! A spare position to permit installing broad-band coils for 160 meters (3.75 to 3.5 MC) or any 1 MC. portion of the spectrum between 3.5 and 25.5 MC. not already covered by amateur bands. For example, 3.5 to 3.5 MC, 4.5 to 5.5 MC, 5.5 to 6.5 MC etc. (NOTE THAT THESE PORTIONS MUST BEGIN AND END AT .5 MC. POINTS ONLY.) OR the 1 MC. portion 25.6 to 27.6 MC. not covered by the 10 meter band position.

Note the generous overlap beyond the four bands for MARS, CAP or COMMERCIAL APPLICATIONS. Even beyond that, the VFO has 50 KC of overshoot (100 KC above 23.5 MC) at each end of the scales. Accuracy and linearity of the overshoot is not guaranteed — but it's there in case you need it.

WITH EXCLUSIVE CENTRAL ELECTRONICS BROADBAND CIRCUITRY THERE IS LITTLE CHANGE IN POWER OUTPUT ACROSS EACH BAND. OUTPUT IMPEDANCE 52.72 OHMS FOR COAXIAL CABLE.

NINE CHOICES OF EMISSION — AT THE FLIP OF A SWITCH

- 1 — LSB Lower sideband suppressed carrier — 100 W. PEP output
- 2 — USB Upper sideband suppressed carrier — 100 W. PEP output
- 3 — OSB Double sideband suppressed carrier — 100 W. PEP output
- 4 — LSC Lower sideband with preset carrier — 25-33 W. output
- 5 — USC Upper sideband with preset carrier — 25-33 W. output
- 6 — AM Double sideband with preset carrier — 25-33 W. output
- 7 — FM Phase modulation with preset carrier — 100 W. output
- 8 — CW Three types of keying preset carrier — 100 W. output
- 9 — PSK Frequency-shift teletype with preset carrier and adjustable deviation — 100 W. output

FM — Check carrier suppression 30 db directly on the meter.
TELEVISION INTERFERENCE

Conventional AM equipment utilizes class C amplifiers that distort the RF output waveform, causing severe harmonic TVI. Since the output stage in the 100V operates in class AB1 excellent linearity and extremely low harmonic output is obtained.



OTHER OPERATING CONTROLS



CALIBRATE LEVEL: Adjusts strength of calibrate signal to suit band conditions or individual installations. A lever switch under the knob allows you to "talk yourself" on frequency or to "zero in" with unmodulated carrier.



BAND SWITCH: Single knob selects 80, 40, 20, 15, 10 meters or a position for special frequencies. A lever switch under the band change knob allows you to select the desired meter range.



AUTOMATIC LOAD MIS-MATCH PROTECTION

In the event that the antenna or load is inadvertently shorted or disconnected, an overcurrent relay applies protective bias and flashes the front panel MIS-MATCH neon indicator.



FUNCTION SWITCH: Power off, Standby, VOX (voice controlled break-in), PTT (push to talk) and MURKIN.



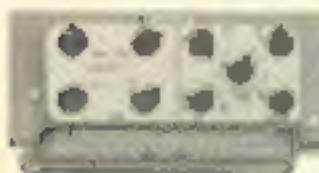
ILLUMINATED METER

The meter will indicate POWER INPUT (0-200 Watts), RF AMPS OUTPUT, AC LINE VOLTAGE and CARRIER SUPPRESSION down to -50 db below maximum output.



2" MONITORING SCOPE

Gives an instantaneous visual trapload check on non-linearity or flat-topping resulting from improper loading. Also indicates correct setting of power carrier level control for 100% AM modulation.



SET AND FORGET CONTROLS
All the seldom used controls which are normally adjusted when first putting the 100V into operation are located behind the two magnetic doors on the front panel. They include: Speech Level, VOX trip level, Antilip (QCL) level, VOX release time, FSK deviation, Carrier Null, Present AM carrier, Present CW carrier, CW Monitor Level, VFO-STAT switch and Power Output Control.



POWER OUTPUT CONTROL

Power output may be adjusted to any level between 10 and 200 watts. This new circuit eliminates the need for dissipative power dividing networks when driving linear amplifiers that require less than 100 watts. The power output con-

trol does not effect the output load impedance of 50-72 ohms. A matching network will be required for grounded grid bypasses when the input impedance exceeds 100 ohms.

NEW INVERSE AUDIO LIMITER

Audio clipping increases the level of the weaker speech passages and will give your signal that echo "punch" required for increased readability under adverse conditions. It maintains maximum speech level and prevents overloading of the balanced modulator, mixer and IF amplifier stages. In the past most clipping systems have contributed objectionable distortion to the output signal. Our new circuit utilizes the clamped waves as inverse feedback to cancel an appreciable amount of distortion.

We have called this improved clipper the "Inverse Limiter." In combination with the new 100V Audio Filter, this new limiter system allows 10 db of leading edge inhibition effect on the speech quality. When limiting starts, the front panel Limiter indicator begins to flash. The amount of limiting may be determined by the 6 db calibrations of the Speech Level control. No matter how loud you talk into the microphone or how far you turn up the control, the peaks will not increase beyond approximately 1 db.

NEW MULTIPHASE 100V

NEW PREDICTED AUDIO FILTER

This filter is composed entirely of RC elements, yet has the steep side response and rejection characteristics of a toroid filter. Since it is a degenerative RC bandpass (200-3800 cycles) type it overcomes all the harsh, ringing characteristics of conventional filters. It precedes the phase shift network and will maintain 50 dB unwanted sideband suppression even beyond the limits of the new PS-2 phase-shift network.

POWER OUTPUT TUBES

The Broadband output circuit of the 100W uses a pair of 6550s. These are rated for continuous commercial service in ultra-linear high power applications. Our tests have proven that the linearity of the 6550s is definitely superior to 6L4s at 100 watts output. Plate dissipation is 35 watts per tube and a pair will deliver 100 WATTS OF SINGLE TONE POWER, EVEN ON TEN METERS, without grid current flow! Two tone third order distortion products are down 30 dB's at 40 dB.

PHYSICAL DATA

Built-in power supply for 115V 60 cycle operation. Spare SPDT contacts on the VOR relay are available on a rear socket to furnish 115V AC for an antenna relay or to control keying circuits in other equipment. Cabinet, grey wrinkle, 9" x 19½" x 15" deep. Panel size, 8½" x 17" available for rock mounting. Standard finish is Control Electronics smooth grey enamel, also available with grey or black wrinkle finish on special order. Shipping weight approx. 90 lbs.

MODEL 1609 Standard Table Top unit, unred \$795.00



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SPECIFICATIONS AND PRICE SUBJECT TO CHANGE WITHOUT NOTICE

WRITE FOR LITERATURE ON THE COMPLETE MULTIPHASE LINE

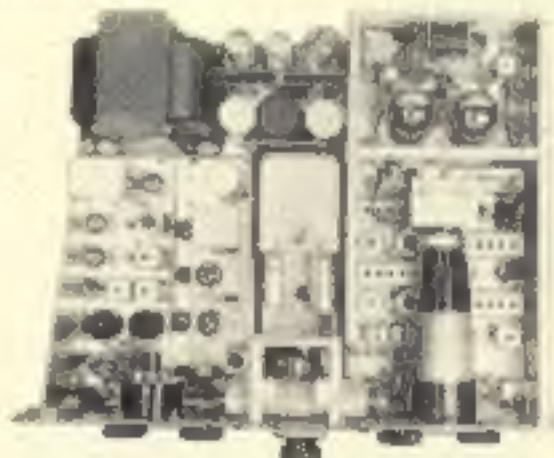
June 1, 1960

NEW PS2 PHASE SHIFT NETWORK

No expense has been spared in developing the most stable and accurate unit on the market. The new PS-2 is a twelve crossover type unit constructed of heat-treated components matched to .1% accuracy. In combination with its associated circuitry, and the fact that 15 db of inverse feedback is applied around the modulator, a will maintain not less than 50 db unwanted sideband suppression. This novel approach means that even the modulator tubes may be changed WITHOUT AFFECTING SIDE BAND SUPPRESSION! The RF phase shift network is a new non-critical, low impedance, wide band type having extreme stability.

NEW DOUBLE HETERODYNE SYSTEM

Years ago, CENTRAL ELECTRONICS developed the first commercially available amateur multiband transmitter in which the sideband signal is generated at a fixed crystal controlled frequency and thereafter heterodyned to different bands. This feature eliminates the necessity of rebalancing the sideband generator when changing from band to band. In the 100W **NEW DOUBLE HETEROODYNE** system intense extreme stability and freedom from spurious products. The VFO tunes from 5 to 6 MC. Sideband generation is crystal controlled at 8 MC. All heterodyne oscillators are continuously and are crystal controlled. Blocked grid keying of mixers and linear amplifier results in perfected, clickless, chips from break in operation.



Impression of the library

THE CHINESE STAGE NOW

A companion receiver with identical VFO, which will transceive with the 100V. The 2500L, big brother to the famous 680L. BROADBAND OF COURSE. A heterodyne converter for 6 and 2 meters. SORRY — literature and delivery date on these new items NOT YET AVAILABLE.



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K4XL's BAMA

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